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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,048	01/17/2006	Kristen E. Belmonte	PU60399	3931

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EXAMINER	
GALLIS, DAVID E	
ART UNIT	PAPER NUMBER
1625	

NOTIFICATION DATE	DELIVERY MODE
05/30/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

US_cipkop@gsk.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,048	BELMONTE ET AL.	
	Examiner	Art Unit	
	DAVID E. GALLIS	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 6 through 20 are pending. Claims 1 through 5 have been cancelled. Claims 6 through 13 have been amended. Claims 14 through 20 have been newly entered. Applicants' claim to priority from provisional application 60/487982, filed July 7, 2003 is acknowledged. Applicants' amendments and arguments filed February 19, 2008 have been entered and carefully considered.

Prior Rejections

2. With regard to the rejection of claims 6 through 13 under 35 U.S.C. 112 second paragraph, Applicants have incorporated the compounds of Formula (I) into claims 6 and 7, thereby obviating the improper dependencies of all claims at issue. Therefore, the rejection of claims 6 through13 as indefinite has been withdrawn.

3. With regard to the rejection of claims 6 under 35 U.S.C. 112 first paragraph, Applicants' arguments have been carefully considered, but were not found to be persuasive for reasons of record. While, as noted by Applicants, test data need not be provided to show sufficiency of the specification, the specification must enable one to use the invention. The claimed method is a "method of inhibiting.." rather than a "method of determining inhibition…". Thus some level of data useful in establishing an effective amount of a composition is needed to enable the user of the invention. Therefore, the rejection of claims 6 through 13 as non-enabling is maintained.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7 through 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention.

6. Claim 7 is drawn to method of inhibiting the binding of acetylcholine to a muscarinic acetylcholine receptor in the respiratory tract of a mammal in need thereof. Claim 14 is drawn to a method of treating chronic obstructive lung disease, chronic bronchitis, asthma, chronic respiratory obstruction, pulmonary fibrosis, pulmonary emphysema or allergic rhinitis in a human in need thereof, comprising administering to said human by inhalation via the mouth an effective amount of a composition comprising a compound of Formula (I). Claims 8 and 9 further limit claim 7, and claims 15 and 16 further limit claim 14 to the treatment of a selected list of diseases, and administration via the mouth from a reservoir dry powder inhaler. Claims 10 and 17 again further limits administration via a multi-dose dry powder inhaler. Claims 11, 12, and 13 further limit claim 7 to 1 mg dosages with 12, 24, and 36 hour or longer durations of action respectively.

7. While the disclosure references some chemically anti-cholinergic compounds and methods of determining inhibition of formula (I) compounds, there is no data disclosed to enable the compounds' usage in an "effective amount" for the methods claimed. The disclosure outlines the analysis of inhibition of receptor action, muscarinic receptor binding assays, methods for the evaluation of potency and duration of action,

induced bronchoconstriction potency and duration of action, and formulation and administration. In several instances the disclosure reports plotting and analyzing data, generating concentration response curves, and determining duration of activity, however, the disclosure is devoid of any data that would enable one skilled in the art to use an "effective amount" of the invention. With the lack of disclosed data, there is no evidence disclosed that suggests that the compounds of formula (I) have any therapeutic activity toward the muscarinic acetylcholine receptor mediation, acetylcholine binding inhibition, and the diseases of claim 8. While test data need not be provided to show sufficiency of the specification, the specification must enable one to use the claimed invention. The claimed methods are "methods of inhibiting (or treating)" rather than "methods of determining inhibition…". Thus some level of data for use regarding an effective amount of a composition is needed to enable the user of the invention. Furthermore, there is no formulation data to support the durations of action of claims 11 through 13 based on 1 mg dosages.

"The factors to be considered [in making an enablement rejection] have been summarized as a) the quantity of experimentation necessary, b) the amount of direction or guidance presented, c) the presence or absence of working examples, d) the nature of the invention, e) the state of the prior art, f) the relative skill of those in that art, g) the predictability or unpredictability of the art, h) and the breadth of the claims", In re Rainer, 146 USPQ 218 (1965); In re Colianni, 195 USPQ 150, Ex parte Formal, 230 USPQ 546. a) Determining the "effective amounts" of a compound of formula (I) would require extensive experimentation. b) The direction concerning the analysis of inhibition of

receptor action, muscarinic receptor binding assays, evaluation of potency and duration of action, induced bronchoconstriction potency and duration of action are found throughout the disclosure on pages 5 through 9. c) There is no working example of a effectiveness of a compound of formula (I). d) The nature of the invention is biochemical. e) The state of the chemical art currently lacks knowledge of the general effectiveness of a formula (I) compound for the methods claimed. f) Artisans using Applicant's invention would require a Ph.D. degree, and possibly an MD, and several years of research experience. g) It is well established that "the scope of enablement varies inversely with the degree of unpredictability of the factors involved", and receptor inhibition is generally considered to be an unpredictable factor. See In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). h) The breadth of the claims includes methods of receptor inhibition and disease treatments requiring experimental data not available in the disclosure.

8. Claims 18, 19, and 20 are rejected due to their dependency on claim 14.

9. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Gallis whose telephone number is 571-272-9068. The examiner can normally be reached on Mon-Thur 8:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-1600. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David E. Gallis
Patent Examiner

/ Bernard Dentz/

Primary Examiner, Art Unit 1625